National 5

Homework AP9

1. The stem-and-leaf diagram shows the amount of money spent by customers in a shop.

2	1 4 4
3	0 1 5 5 8
4	1 2 3 5 6 9
5	0 1 2 3 5 8 9 9
6	0 0 1 2 6
7	1 2 2
8	0 4 6

$n = 33$ 2 | 1 represents 21 pence.

(a) Using the above information, find
   (i) the median
   (ii) the lower quartile and the upper quartile
   (iii) the semi-interquartile range.

(b) What is the probability that a customer chosen at random spent more than 80 pence?

2. Over a period of 20 days the sales of videos from a shop were:

11	32	29	11	4	37	18	3	23	15
47	22	9	5	30	34	17	1	12	16

(a) Construct a stem-and-leaf diagram for the sales.

(b) Do a five-figure summary and show your results in a boxplot.

(c) What is the probability that the shop sold more than 30 videos on any one day during the 20-day period?

3. A sample of shoppers was asked which brand of washing powder they preferred.
The responses are shown below.

Washing Powder	Frequency
Dazzle	250
Cyclo	375
Surfer	125
Cleano	250

Construct a pie chart to show this information.

4. Ship A is anchored 25 km from port P on a bearing of 037°.
Ship B is anchored 35 km from port P on a bearing of 109°.
Calculate the direct distance from ship A to ship B.

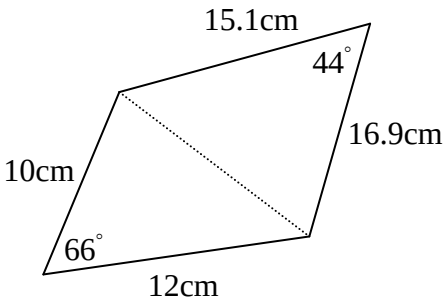
5. Triangle ABC has $AB = 10\,\text{cm}$ and $AC = 9\,\text{cm}$.
Triangle ABC has area 32 sq cm.
Find the size of the acute angle BAC.

6. A furniture manufacturer investigates the delivery times, in days of two local wood companies and obtains the following data.

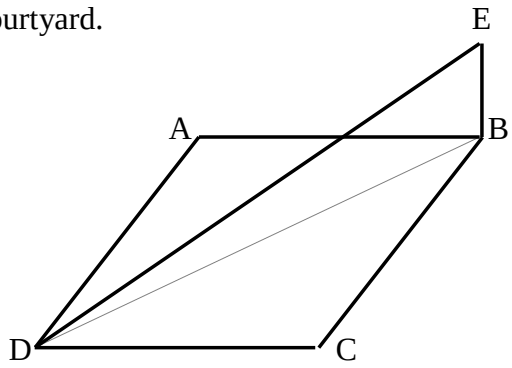
Company	Minimum	Maximum	Lower Quartile	Median	Upper Quartile
Timberplan	16	56	34	38	45
Allwoods	18	53	22	36	49

(a) Draw an appropriate statistical diagram to illustrate these two sets of data.
(b) Given that consistency of delivery is the most important factor, which company should the manufacturer use? Give a reason for your answer.

7. Calculate the area of the quadrilateral sketched below.



9. ABCD represents a square courtyard.
BE represents a statue.



$BE = 5$ metres and angle BDE is equal to 8°.
Find the length of the side of the square courtyard.